Office of Exploration Systems

- **Transportation Systems**
  - Develop Crew Exploration Vehicle (CEV) using “spiral development” beginning in late 2004
    - Exploration highest priority Level One requirement; defer RFP accordingly
    - First spiral tests “boilerplate” launch/re-entry performance with tests 2007-9
    - Second spiral demonstrates most major flight systems with tests 2020-13
    - Third spiral delivers full-up flight vehicle with first human launch in 2013-14
    - Basis of estimate assumes each of first two spirals about $3B with 3-4 flight tests, and starting with about 300 FTEs
  - Phaseout funding for SLI in FY05 (OSP $60m; NGLT $201m)

- **Human and Robotic Technologies**
  - Funds Tech Maturation to enable future human and robotic missions; architecture studies including launch trades; and flight experiments/demos as early as 2006
  - Includes Prometheus development (JIMO instruments retained by Code S)
  - Includes MSM (renamed Adv. Space Technology) and __TP themes to be integrated into exploration plans during FY06 budget formulation
  - Includes new Centennial Challenges program to offer prized for new innovations (e.g., rover survivor, nanotube tether, robotic insect, life detection, micor reentry vehicle, lunar landing)

Office of Exploration Systems (cont.)

- **Lunar Exploration**
  - Use Moon as operational testbed for future exploration
  - Frequency, locations, duration, and capabilities depending on:
    - Future Mars science needs and human exploration planning scenarios
    - Success in demonstrating new, sustainable exploration architecture scenarios
    - Utility of lunar resources and lunar science opportunities
  - Annual precursor robotic missions starting no later than 2008 and likely include:
    - Lunar recon orbiter, 2008
    - Lunar robotic landing, ~2009